APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/693,511	10/20/2000	Joel E. Short	42253/205408	7936

826   7590   12/15/2005

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EXAMINER
DUONG, THOMAS

ART UNIT	PAPER NUMBER
2145	

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 September 2005*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 3-11, 13-16, 18, and 20-23* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-11, 13-16, 18, and 20-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This office action is in response to the applicants Amendment filed on September 26,

2005. Applicant amended *claims 4, 13, 18, and 21-23. Claims 1, 3-11, 13-16, 18, and*

20-23 are presented for further consideration and examination.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

3.   <u>Claims 1, 3-5, 7-11, 13-14, 16, 18, and 20-23</u> are rejected under 35 U.S.C. 103(a) as

being unpatentable over Merchant et al. (US006775290B1), in view of Rijhsinghani et al.

(US006526052B1), and further in view of Denning et al. (Location-Based Authentication:

Grounding Cyberspace for Better Security; copy right 1996; pages 1-6).

4.   With regard to <u>claims 1, 7, and 18</u>, Merchant discloses,

  * *a processor that communicates with an access concentrator to receive a plurality*

    of port identifiers assigned by the access concentrator wherein each port

    identifier is associated with a location-specific connection port that provides

    connection for one or more hosts, the processor further determines which of the

    location-specific connection ports are currently accessing the network-by

associating each of the received port identifiers with a location-specific

connection port; and (Merchant, col.1, lines 39-49, 52-63; col.2, lines 48-57)

Merchant teaches of *"storing VLAN data indicating a plurality of VLAN identifiers*

corresponding to the multiple VLANs supported by the port" and determining the

active connections by comparing *"the VLAN identifier of a data packet received*

via the port ... with the plurality of VLAN identifiers ... [of] the stored VLAN data"

(Merchant, col.1, lines 54-59). Furthermore, Merchant discloses of *"many VLAN*

implementations define VLAN membership by groups of switch ports. For

example, ports 1, 2, 3, 7 and 8 on a switch make up VLAN A, while ports 4, 5,and

6 make up VLAN B. Alternatively, VLAN membership may be based on MAC

addresses" (Merchant, col.1, lines 39-43). Hence, VLAN A is associated with

specific switch ports 1, 2, 3, 7 and 8, which, in turn, are connected to specific

machines located at specific locations. For example, machines of department C

in a company, located on a certain floor, can all be connected to specific switch

ports 1, 2, and 3. Therefore, machines of department C are associated with

VLAN A and are specifically located on a certain floor of a building.

However, Merchant does not explicitly disclose,

- *port identifiers assigned by the access concentrator wherein each port identifier*

  is associated with a location-specific connection port that provides connection for

  one or more hosts

Rijhsinghani teaches,

- *port identifiers assigned by the access concentrator wherein each port identifier*

  is associated with a location-specific connection port that provides connection for

one or more hosts (Rijhsinghani, col.7, line 63 – col.8, line 5; col.9, lines 37-58;

fig.5)

Rijhsinghani teaches of switches (*270', 275', 280'*) that are capable of

"[determining] the appropriate VLAN tag to add to the communication before

transmission via the trunk port to the high speed LAN backbone or trunk 265'''

(Rijhsinghani, col.9, lines 39-42) and ultimately through the *"trunk station 285*

[which] may, for example, be a network server or other network resource to

which some or all of the members of LANs may require high speed access from

time to time or on a continuous basis as is known in the art" (Rijhsinghani, col.7,

line 63 – col.8, line 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to combine the teachings of Rijhsinghani with the teachings

of Merchant to *"increase the flexibility of network switching ... [by] providing a*

network switch that enables each switch port to support connections with members

of multiple VLANs" (Rijhsinghani, col.1, lines 45-49). In addition, Merchant mentions

switches using VLAN and VLAN identifiers; and it is well known in the networking art

that VLAN consists of groups of hosts that are on physically different segments but

that communicate as though they were on the same wire by using VLAN identifiers.

However, Merchant and Rijhsinghani do not explicitly disclose,

- *a database associated with the network gateway device that stores the location-*

  specific connection ports for the purpose of identifying one or more hosts

  associated with the connection port that have been granted network

  authorization.

Denning teaches,

- *a database associated with the network gateway device that stores the location-specific connection ports for the purpose of identifying one or more hosts associated with the connection port that have been granted network authorization.* (Denning, pg.2, para.2).

Denning teaches of *"[determining] whether a person is attempting to log in from an approved location, e.g., a user's office building or home"* (Denning, pg.2, para.2, lines 3-4). Denning also suggests that using *"the login location ... to identify the place of login as well as to authenticate it"* (Denning, pg.2, para.2, lines 6-8). Both Merchant and Rijhsinghani include databases or tables for storing the VLAN data, which ultimately maps the VLAN identifier to the connecting VLAN port.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Denning with the teachings of Merchant and Rijhsinghani to *"increase the flexibility of network switching ... [by] providing a network switch that enables each switch port to support connections with members of multiple VLANs"* (Rijhsinghani, col.1, lines 45-49) and to use *"the login location ... to identify the place of login as well as to authenticate it"* (Denning, pg.2, para.2, lines 6-8). In addition, according to Denning, the *"use of geodetic location can supplement or complement other methods of authentication"* and that *"its value added is a high level of assurance against intrusion from any unapproved location regardless of whether the other methods have been compromised"* (Denning, pg.2, para.6)

5.   With regard to *claim 3*, Merchant, Rijhsinghani, and Denning disclose,

- *wherein the processor uses VLAN protocol as a communication link between the processor and the access concentrator.* (Merchant, col.1, lines 52-63; col.2, lines 48-57; Rijhsinghani, col.7, line 63 – col.8, line 5; col.9, lines 37-58; fig.5)

6.   With regard to *claims 4-5*, Merchant, Rijhsinghani, and Denning disclose,

- *wherein the processor further comprises a querying agent capable of requesting transmission of the plurality of port identifiers from the associated access concentrator in response to receipt of data packets that fail to include location information.* (Rijhsinghani, col.7, line 49 – col.8, line 5; col.8, lines 35-41; col.9, lines 31-46)

- *wherein the querying agent uses Simple Network Management Protocol (SNMP) as the communication link between the network device and the access concentrator.* (Rijhsinghani, col.7, line 49 – col.8, line 5; col.8, lines 35-41; col.9, lines 31-46)

7.   With regard to *claims 8-11, 13 and 16*, Merchant, Rijhsinghani, and Denning disclose,

- *wherein identifying the location-specific, connection port of each of the hosts at an access concentrator further comprises tagging the data packets being sent from each host with one of a plurality of port identifiers at an access concentrator.* (Merchant, col.1, lines 52-63; col.2, lines 48-57; Rijhsinghani, col.7, line 63 – col.8, line 5; col.9, lines 24-30, lines 37-58; col.10, lines 34-43; col.11, lines 5-10; fig.5)

- *wherein communicating the port identifier to a network gateway device further comprises transmitting tagged data packets to a network gateway device.*

(Merchant, col.1, lines 52-63; col.2, lines 48-57; Rijhsinghani, col.7, line 63 –

col.8, line 5; col.9, lines 24-30, lines 37-58; col.10, lines 34-43; col.11, lines 5-10;

fig.5)

- *wherein tagging the data packets being sent from each host with one of a*

  plurality of port identifiers further comprises tagging the data packets being sent

  from each host with one of a plurality of port identifiers that corresponds to a

  media access control (MAC) address. (Merchant, col.1, lines 38-42, lines 52-63;

  col.2, lines 48-57; Rijhsinghani, col.7, line 63 – col.8, line 5; col.9, lines 24-30,

  lines 37-58; col.10, lines 34-43; col.11, lines 5-10; fig.5)

- *wherein tagging the data packets being sent from each host with one of a*

  plurality of port identifiers includes implementing the use of VLAN protocol.

  (Merchant, col.1, lines 38-42, lines 52-63; col.2, lines 48-57; Rijhsinghani, col.7,

  line 63 – col.8, line 5; col.9, lines 24-30, lines 37-58; col.10, lines 34-43; col.11,

  lines 5-10; fig.5)

8.   With regard to *claim 14*, Merchant, Rijhsinghani, and Denning disclose,

- *wherein transmitting a port requesting query from the network gateway device*

  further comprises transmitting a SNMP (Simple Network Management Protocol)

  query. (Rijhsinghani, col.7, line 49 – col.8, line 5; col.8, lines 35-41; col.9, lines

  31-46)

9.   With regard to *claims 20 and 23*, Merchant, Rijhsinghani, and Denning disclose,

- *further comprising executing the network system application at the network*

  gateway device. (Merchant, col.1, lines 52-63; col.2, lines 48-57; Rijhsinghani,

col.7, line 63 – col.8, line 5; col.9, lines 24-30, lines 37-58; col.10, lines 34-43;

col.11, lines 5-10; fig.5)

- *wherein applying the results of the identification to a network system application*
  further comprises applying the identified one or more of location-specific
  connection ports to determine port-specific information that will be communicated
  to a connection port (Merchant, col.1, lines 38-42, lines 52-63; col.2, lines 48-57;
  Rijhsinghani, col.7, line 63 – col.8, line 5; col.9, lines 24-30, lines 37-58; col.10,
  lines 34-43; col.11, lines 5-10; fig.5)

10.   *Claims 6 and 15* are rejected under 35 U.S.C. 103(a) as being unpatentable over

Merchant et al. (US006775290B1), in view of Rijhsinghani et al. (US006526052B1),

further in view of Denning et al. (Location-Based Authentication: Grounding Cyberspace

for Better Security; copy right 1996; pages 1-6), and further in view of Hunt et al.

(US006539422B1).

11.   With regard to *claims 6 and 15,* Merchant, Rijhsinghani, and Denning disclose,

See *claims 4 and 13* rejections as detailed above.

However, Merchant, Rijhsinghani, and Denning do not explicitly disclose,

- *wherein the querying agent uses Extensible Markup Language (XML) as the*
  communication between the network device and the access concentrator.

Hunt teaches,

- *wherein the querying agent uses Extensible Markup Language (XML) as the*
  communication between the network device and the access concentrator. (Hunt,
  abstract, lines 9-14; col.15, lines 39-43; module 231, fig.2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of

the invention was made to combine the teachings of Hunt with the teachings of

Merchant, Rijhsinghani, and Denning to *"increase the flexibility of network switching*

... [by] providing a network switch that enables each switch port to support

connections with members of multiple VLANs" (Rijhsinghani, col.1, lines 45-49) and

to use *"the login location ... to identify the place of login as well as to authenticate it"*

(Denning, pg.2, para.2, lines 6-8). In addition, according to Denning, the *"use of*

geodetic location can supplement or complement other methods of authentication"

and that *"its value added is a high level of assurance against intrusion from any*

unapproved location regardless of whether the other methods have been

compromised" (Denning, pg.2, para.6)

12.   *Claims 21-22* are rejected under 35 U.S.C. 103(a) as being unpatentable over Merchant

et al. (US006775290B1), in view of Rijhsinghani et al. (US006526052B1), in view of

Denning et al. (Location-Based Authentication: Grounding Cyberspace for Better

Security; copy right 1996; pages 1-6), and further in view of Hernandez et al.

(US006208977B1).

13.   With regard to *claims 21-22*, Merchant, Rijhsinghani, and Denning disclose,

See *claim 18* rejections as detailed above.

However, Merchant, Rijhsinghani, and Denning do not explicitly disclose,

- *wherein applying results of the identification to a network system application*

  further comprises applying the identified one or more location-specific connection

ports to a network billing application that provides bills subscribers based on location.

- *wherein applying the results of the identification to a network system application further comprises applying the identified one or more location-specific connection ports to an authorization application that provides authorization to network subscribers based on location.*

Hernandez teaches,

- *wherein applying results of the identification to a network system application further comprises applying the identified one or more location-specific connection ports to a network billing application that provides bills subscribers based on location.* (Hernandez, col.5, lines 24-42; col.11, lines 18-41)

- *wherein applying the results of the identification to a network system application further comprises applying the identified one or more location-specific connection ports to an authorization application that provides authorization to network subscribers based on location.* (Hernandez, col.5, lines 24-42; col.11, lines 18-41)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Hernandez with the teachings of Merchant, Rijhsinghani, and Denning to *produces billing information based on the location.*

Response to Arguments

14.   Applicant's arguments with respect to *1, 3-11, 13-16, 18, and 20-23* have been considered but they are not persuasive.

15.   With regard to *claims 1, 3-5, 7-11, 13-14, 16, 18, and 20-23*, the Applicants point out

that:

- *To the contrary, the cited references fail to teach or suggest a processor that*

  communicates with an access concentrator to receive a plurality of port identifiers

  assigned by the access concentrator wherein each port identifier is associated

  with a location-specific connection port as claimed in independent claim 1.

However, the Examiner finds that the Applicants' arguments are not persuasive

because Merchant teaches of *"storing VLAN data indicating a plurality of VLAN*

identifiers corresponding to the multiple VLANs supported by the port" and

determining the active connections by comparing *"the VLAN identifier of a data*

packet received via the port ... with the plurality of VLAN identifiers ... [of] the stored

VLAN data" (Merchant, col.1, lines 54-59). Furthermore, Merchant discloses of

"many VLAN implementations define VLAN membership by groups of switch ports.

For example, ports 1, 2, 3, 7 and 8 on a switch make up VLAN A, while ports 4,

5,and 6 make up VLAN B. Alternatively, VLAN membership may be based on MAC

addresses" (Merchant, col.1, lines 39-43). Hence, VLAN A is associated with

specific switch ports 1, 2, 3, 7 and 8, which, in turn, are connected to specific

machines located at specific locations. For example, machines of department C in a

company, located on a certain floor, can all be connected to specific switch ports 1,

2, and 3. Therefore, machines of department C are associated with VLAN A and are

specifically located on a certain floor of a building.

Therefore, the Applicants still failed to clearly disclose the novelty of the invention and identify specific limitation, which would define patentable distinction over prior art.

16.   With regard to *claims 4-6, 13-16, and 21*, the Applicants point out that:

   • *Claim 4 has been amended to recite, inter alia, a querying agent capable of requesting transmission of the plurality of port identifiers from the associated access concentrator in response to receipt of data packets that fail to include location information. None of the cited references, in general, or the cited passages of those references, in particular, teach or suggest a querying agent capable of requesting transmission of the plurality of port identifiers from the associated access concentrator in response to receipt of data packets that fail to include location information as claimed in claim 4.*

However, the Examiner finds that the Applicants' arguments are not persuasive because, in a VLAN enabled networking environment, it is possible to configure the environment so that a data packet with no identifier will be discarded. Hence, there is no need to request transmission of the port identifiers for a packet, which includes no information.

Therefore, the Applicants still failed to clearly disclose the novelty of the invention and identify specific limitation, which would define patentable distinction over prior art.

17.   With regard to *claims 6 and 15*, the Applicants point out that:

- *As stated above, Merchant, Rijhsinghani and Denning fail, individually and in combination, to teach or suggest a location-specific connection port as claimed in independent claims 1 and 7*

However, the Examiner finds that the Applicants' arguments are not persuasive because Merchant teaches of *"storing VLAN data indicating a plurality of VLAN identifiers corresponding to the multiple VLANs supported by the port"* and determining the active connections by comparing *"the VLAN identifier of a data packet received via the port ... with the plurality of VLAN identifiers ... [of] the stored VLAN data"* (Merchant, col.1, lines 54-59). Furthermore, Merchant discloses of *"many VLAN implementations define VLAN membership by groups of switch ports. For example, ports 1, 2, 3, 7 and 8 on a switch make up VLAN A, while ports 4, 5, and 6 make up VLAN B. Alternatively, VLAN membership may be based on MAC addresses"* (Merchant, col.1, lines 39-43). Hence, VLAN A is associated with specific switch ports 1, 2, 3, 7 and 8, which, in turn, are connected to specific machines located at specific locations. For example, machines of department C in a company, located on a certain floor, can all be connected to specific switch ports 1, 2, and 3. Therefore, machines of department C are associated with VLAN A and are specifically located on a certain floor of a building.

Therefore, the Applicants still failed to clearly disclose the novelty of the invention and identify specific limitation, which would define patentable distinction over prior art.
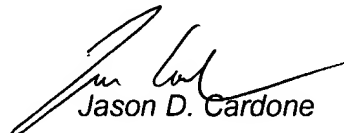
Conclusion

18.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than

SIX MONTHS from the date of this final action.

19.   Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Thomas Duong whose telephone number is 571/272-3911. The

examiner can normally be reached on M-F 7:30AM - 4:00PM. If attempts to reach the

examiner by telephone are unsuccessful, the examiner's supervisor, Jason D. Cardone

can be reached on 571/272-3933. The fax phone numbers for the organization where

this application or proceeding is assigned are 571/273-8300 for regular communications

and 571/273-8300 for After Final communications.

Thomas Duong (AU2145)   *Jason D. Cardone*

December 8, 2005   *Supervisory PE (AU2145)*